



SUNY
DOWNSTATE
Medical Center



SUNY Downstate Medical Center
Department of Orthopaedics Surgery & Rehabilitation Medicine /
Biomedical Engineering
Alumni Auditorium
395 Lenox Rd, Brooklyn, NY

*THE EIGHTH
INTERNATIONAL
CONFERENCE ON
ETHICAL ISSUES
IN BIOMEDICAL
ENGINEERING*

APRIL 24-26, 2015

Design: Department of Biomedical Communications

SUNY DOWNSTATE MEDICAL CENTER

8th INTERNATIONAL CONFERENCE ON ETHICAL ISSUES IN BIOMEDICAL ENGINEERING

SUNY Downstate Medical Center, Alumni Auditorium
SUNY Downstate Medical Center 395 Lenox Rd, Brooklyn, NY

I wish to Register as a (please select only one):

FULL ATTENDANCE (Including all Oral and Poster Presenters)

☐ Registration Fee \$200 ☐ Student/Post-doc/Fellow \$70

1-DAY ATTEENDANCE (April 20 or 21, 2013)

UNIQUE FEE for all. Please indicate Day

☐ April 20 or ☐ April 21, 2013 ****\$150**

**** All 1-day registrations do NOT include a dinner ticket for the registrant.**

Dinner tickets can be purchased individually.

EXTRA DINNER TICKETS (dinner takes place on **Saturday, April 20, 2013** at SUNY Downstate Medical Center)

I want extra dinner ticket(s)

(check if applicable and indicate the number):

☐ Dinner Ticket (for dinner attendees ONLY, 1-day participants -April 20 or 21-, and/or Guests)

\$50 each Number of Tickets _____

CONTACT INFORMATION (*Information is required)

Prefix*: ☐ Dr. ☐ Ms. ☐ Mr.

First Name*: _____ Middle Initial: _____

Last Name*: _____

Degree*: _____

Address Type*: ☐ Home ☐ Work

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Mail Payment to: Subrata Saha, PhD
SUNY Downstate Medical Center
Orthopaedic Surgery & Rehabilitation Medicine,
450 Clarkson Avenue - Box 30,
Brooklyn, New York 11203

Welcome from the Conference Chair

I am pleased to welcome you to the Eighth International Conference on Ethics in Biology, Engineering & Medicine. Our goal is to bring together biomedical engineers, scientists, clinicians, philosophers, lawyers, students and representatives from industry to discuss the ethical issues that face us as we make new advances in biology, engineering and medicine, and as develop new implants, devices, and drugs to improve medical treatments and the quality of life of our patients. The papers to be presented represent a broad spectrum of topics reflecting the exciting, but sometimes controversial nature of many of the new advances in biology, engineering and medicine.

This conference is sponsored by SUNY Downstate Medical Center and St. Francis College. It is co-sponsored by the Research Foundation for SUNY, the American Institute for Medical and Biological Engineering, Sigma Xi, and several other societies, institutions, and companies.

Many people contributed to the success of this conference. I would like to thank the Keynote speakers, the authors, session moderators, panel members, and the staff. The abstracts from this conference and selected papers will be published in a special issue of the *International Journal of Medical Implants and Devices* that will be distributed at the conference. The authors are also encouraged to submit their papers for publication in *Ethics in Biology, Engineering and Medicine: An International Journal*. I am sure that you shall find this conference intellectually stimulating and a highly enjoyable experience.

Welcome to Brooklyn, New York.

Subrata Saha

Subrata Saha, Ph.D., Conference Chair
Department of Orthopaedic Surgery &
Rehabilitation Medicine
SUNY Downstate Medical Center
Brooklyn, New York 11203

Special Needs

In accordance with the Americans with Disabilities Act (ADA), SUNY Downstate Medical Center seeks to make this conference accessible to all. If you have a disability, which might require special accommodations, please contact

Dr. Subrata Saha, Phone: (718)-613-8652,
Subrata.Saha@downstate.edu.

Needs Statement

The field of biomedical research leads to new treatment modalities and the leadership at SUNY Downstate Medical Center and St. Francis College saw the need for a workshop to update the medical and scientific community in Brooklyn and the tri-state area of the ethical guidelines that need to be followed.

Educational Objectives

At the conclusion of this workshop, participants will be aware of:

- Ethical guidelines for the development of new medical devices and new potential treatment modalities.
- Ethical issues involved in clinical trials and animal experiments.
- Conflicts of interest and regulatory issues for new devices.
- Research Integrity and Responsible Conduct of Research.

Target Audience

Engineers, Scientists, Physicians, Dentists, Lawyers, and graduate and undergraduate students.

Website

Online registration and latest program are available from
<http://www.downstate.edu/orthopaedics/bioethics/>

Hotel Information

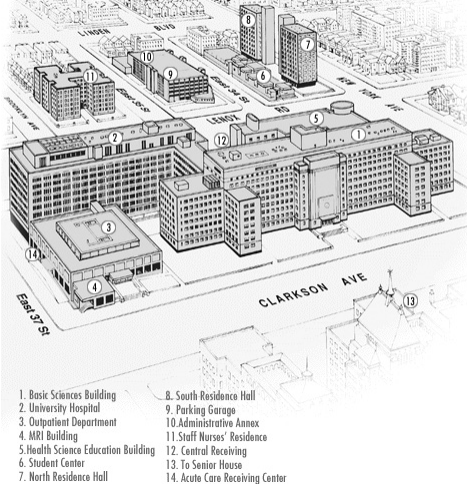
Located within Renaissance Plaza and across the street from Metro Tech, the New York Marriott at the Brooklyn Bridge is 5 minutes from Manhattan and the Financial District, with 9 major subway lines all within one block. The New York Marriott at the Brooklyn Bridge is the largest full service hotel in Brooklyn. A block of rooms at the Marriott New York at the Brooklyn Bridge have been reserved at a special reduced rate of \$199 (plus tax) per day for conference attendees during the conference. To receive this special rate, please mention "Ethics Conference" while booking the room. Please note that this special rate is valid until March 2015. This hotel is within walking distance (about-2 blocks) from the St. Francis College where all the technical sessions will be held

Call for Reservations:

Toll Free: (888)-436-3759

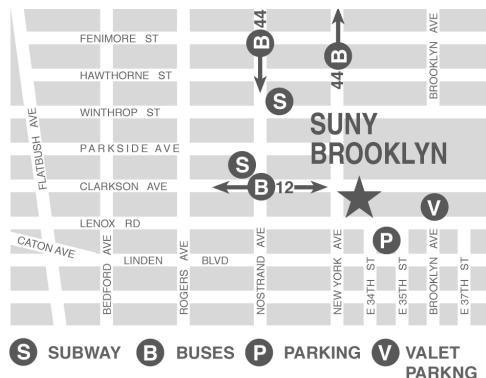
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Alumni Auditorium, 395 Lenox Rd, Brooklyn, NY 11203
SUNY Downstate Medical Center



Friday April 24, 2015

8:00am-4:00pm **Registration**

8:00am **Continental Breakfast**

8:30am **Welcome & Introductions**

Pamela Sass, M.D.

Acting Dean, College of Medicine

SUNY Downstate Medical Center, Brooklyn, NY

Allen Burdowshi, Ph.D.

Dean

St. Francis College, Brooklyn, NY

8:45am **Announcements**

Subrata Saha, PhD,

Conference Chair

SUNY Downstate Medical Center, Brooklyn, NY

8:50-9:30am

Keynote I

Citizen-Scientists: Pursuing the Good in an Age of Discovery

Mildred Z. Solomon, Ed.D.,

President, The Hastings Center, Garrison, NY

9:30-9:45am

Coffee Break

9:45-12:15pm

Ethical issues in Biomedical Engineering

Co-Chairs

Shankar M. Krishnan, Ph.D.

Wentworth Institute of Technology, Boston, MA

TBA

9:45am

Why Bioengineers Cannot Sharply Distinguish Technical Questions of Feasibility from Ethical Questions of Permissibility

George Khushf

University of South Carolina, Columbia, SC

10:00am

3 Versions of Anticipatory Ethics for issues in Biomedical Engineering

Richard L. Wilson

University of Maryland at Baltimore County, Baltimore, MD

10:15am	<p>Including Bio/Med Technologist in ethical discussion concerning Innovative products - are the available platforms appropriate?</p> <p>Ilana Kepten Braude Engineering College, Karmiel, Isreal</p>
10:30am	<p>Empowering Researchers To Shape Medical Innovation</p> <p>Jennifer A. Nichols University of Utah, Salt Lake City, UT</p>
10:45am	<p>The Ethics of Pharming: Engineering Design at the Cellular Level</p> <p>Abidemi O. Ologunde & Oyinlola O. Adeyanju University of South Florida, Tampa, FL</p>
11:00am	<p>Use of Virtual Humans In Designing Vehicles for Occupant Safety</p> <p>Arunima Deb and Shreya Agarwal Mandya Institute of Medical Science (MIMS), Mandya, Karnataka, India</p>
11:15am	<p>Allergic to Modern Technology: What Are the Ethical Responsibilities of Society to Electrically Hypersensitive Individuals?</p> <p>Kenneth R. Foster University of Pennsylvania, Philadelphia, PA</p>
11:30a	<p>Longer Living Through Technology: In Favor of Life-Prolonging Biomedical Technology for Old People</p> <p>Felicia Nimue Ackerman Brown University, Providence, RI</p>
11:45am	<p>Pervasive Technologies: Principles To Consider</p> <p>Christine Perakslis¹, Jeremy Pitt², Katina Michael³ and MG. Michael³</p> <p>¹ Johnson & Wales University, Providence, RI ² Imperial College, London, United Kingdom ³University of Wollongong, Wollongong, Australia</p>
12:00pm	<p>Nano Technology – Social Ethics Integration: A Prognosis!</p> <p>M.K.Banerjee Malaviya National Institute of Technology, Jaipur, India</p>
12:15-1:15pm	Lunch

11:10am-12:40pm	<p>Keynote II</p> <p>Sticky Ethical Issues in Healthcare and Research: How We Got Here, Where We Are Going</p> <p>Gregory L. Eastwood, MD President, SUNY Upstate Medical University, Syracuse, NY</p>
2:00-3:15pm	<p>Technology and Ethics I</p> <p>Co-Chairs Mark Stewart, MD, PhD SUNY Downstate Medical Center, Brooklyn, NY</p> <p>Adrian R.M. Upton, MA, MB, B. Chir, LRCP, MRCS, MD McMaster University Medical Center, Hamilton, Canada</p>
2:00pm	<p>Bulletproof Humans: An Anticipatory Ethical Analysis of Bulletproof Skin</p> <p>Richard L. Wilson University of Maryland at Baltimore County, Baltimore, MD</p>
2:15pm	<p>“We won’t know what’s going on inside”: Tissue Engineering Hidden Musculoskeletal Tissues</p> <p>Nancy Pleshko and Richard G. Spencer Temple University, Philadelphia, PA</p>
2:30pm	<p>Brain-Computer Interfaces: Extending Embodiment, Reducing Stimga?</p> <p>Sean Aas and David Wasserman National Institutes of Health, Bethesda, MD</p>
2:45pm	<p>Environmental Goods and Health Goods: Ethical Issues of Fair Distribution</p> <p>Michael Lindquist Western Michigan University, Kalamazoo, MI</p>
3:00-3:30pm	Coffee Break
3:30-5:00pm	<p>Genomics and Stem Cells: Ethical Challenges</p> <p>Co-Chairs Allen Burdowski, PhD St. Francis College, Brooklyn, NY</p> <p>TBA</p>

3:30pm	Ethical and Therapeutic Challenges with the use of Induced Pluripotent Stem Cells (IPSCs) Glenn Monastersky Rensselaer Polytechnic Institute, Troy, NY	5:15pm	The Goods of Health Care Wade L. Robison Rochester Institute of Technology, Rochester, NY
3:45	Genomic Privacy Mark Gerstein Gerstein lab, New Haven, CT	5:30pm	The Ethical Conundrum of HPV-Associated Head and Neck Cancer Andrew G. Shuman University of Michigan Medical School, Ann Arbor, MI
4:00	The Ethics of Gene Editing Technologies in Human Stem Cells Michael W. Nestor and Richard L. Wilson The Hussman Institute for Autism University of Maryland, Baltimore County, MD	5:45pm	Is it Wrong to Live to a 100? Gregory E. Pence University of Alabama at Birmingham, Birmingham, AL
4:15	The Relevance of Genetic Resources Governance to Synthetic Biology Catherine Rhodes The University of Manchester, Manchester, United Kingdom	6:00pm	Ebola Virus Disease (EVD): A Case for Shared National and Global Responsibilities in Global Health Crisis Evaristus Chiedu Obi Duquesne University, Pittsburgh, PA
4:30	Ethical Implications On ‘Creating Life’: The First Synthetic Cell Beena Jose and Binoy J. Pichalakkatt Jesuit School of Theology of Santa Clara University, Berkeley, CA	6:15pm	The Ethics Of Transgender Inclusion In The Inhabitable Medical Space Ronica Mukerjee St. Francis College, Brooklyn, NY
4:45	The Availability and Comprehensivness of Patient Education to Counter the Premature Marking of Unproven Stem Cell Interventions (“Stem Cell Tourism”) Zubin Master, Kelsey Robertson, Daniel Fredrick, Christen Rachul and Timothy Caulfield Albany Medical College, Albany, NY University of Alberta, Edmonton, AB University of Albany SUNY, Albany, NY Carleton Univeristy, Ottawa, ON	6:30-7:00pm	Reception
5:00	Ethical Problems in Exome Sequencing in Research and Clinical Settings Elaine E. Englehardt ¹ and Michael S. Pritchard ² ¹ Utah Valley University, Orem, UT ² Western Michigan University, Kalamazoo MI	7:00-8:30pm	Dinner Welcome: Sophie Berman, PHD St. Francis College, Brooklyn, NY

5:15-6:15pm	Ethics of Health Care I
Co-Chairs	Alan S. Litsky, MD Ohio State University, Columbus, OH Kathleen Powderly, PhD SUNY Downstate Medical Center, Brooklyn, NY

Saturday April 25, 2015

8:00- 9:15am **Mini-Symposium: Ethics issues in dentistry**

Co-Chairs Anthony T. Vernillo, DDS, MS
New York University, New York, NY

Divya Mehrotra, MDS, MNAMS,
King George Medical University, Lucknow, India

8:00am **Ethical dilemmas in Orthodontics in a dental school environment**
Arun Urala
Manipal College of Dental Science, Manipal, India

8:15am **Dental Education Disparities in Chile: Ethical challenges for academic progress in Chilean Dental Students**
Martin Pendola¹, Guido Jaramillo², Esteban Vargas³, Gonzalo Antiquero⁴, Mario Flores³, Subrata Saha¹.
¹ SUNY Downstate Medical Center, Brooklyn, New York.
² Universidad de Talca, Talca, Chile.
³ Universidad San Sebastian, Puerto Montt, Chile.
⁴ Universidad de la Frontera, Temuco, Chile

8:30am **Ethical issues in rendering dental care in remote areas.**
Shashidhar Acharya,
Manipal College of Dental Science, Manipal, India

8:45am **Genomics, Ethical Issues, and the Practice of Dentistry**
Alexander J. Schloss and Anthony T. Vernillo.
New York University College of Dentistry, New York, NY

9:00am **Global Health Gateway: Ethics in Global Health**
Shilpi S. Shah
Ahmedabad Dental College and Hospital, Gujarat, India

9:15 -9:45am **Coffee Break**

9:45-11:45am **HealthCare Ethics II**

Co-Chairs Charles Rosen, MD
University of California at Irvine, CA

William Urban, MD
SUNY Downstate Medical Center, Brooklyn, NY

9:45am **Medical Ethics & Health Policy in Military and Veterans Health**
CAPT Mark B. Lyles
U.S. Naval War College, Newport, RI

10:00am **Made-to-Measure Palliative Care. An Ethical Imperative for Growing Cultural Plurality in the US.**
Nathan A. Boucher
SUNY Downstate Medical Center, Brooklyn, NY

10:15am **Changing Attitudes of Doctors in the US; do we really understand what Shared Decision Making means and are we ready to accept the consequences of those decisions?**
David Dinhofer
NYC Technical College of CUNY, Brooklyn, NY

10:30am **Patients Are from Mars, Doctors are from Venus: Patients prefer Placebos and Paternalism; Doctors Don't**
Isabella Guajardo
University of California, San Francisco, CA

10:45am **Analysis of the Sunshine Act Data Pertaining to NY Orthopaedic Surgeons**
Karkare A.¹, Karkare N.¹, Saha S.²
¹ New York Orthopaedic Partners, Centereach NY
² SUNY Downstate Medical Center, Brooklyn, NY

11:00am **Ethical Perspectives: Withdrawal of Life-Sustaining Treatments in Pediatrics**
Danielle Brigham, Shefali Karkare and Linda Siegel
Cohen Children Medical Center, New Hyde Park, NY

11:15am **A Diagnostic and treatment dilemma Osteoporosis**
Prashant S. Kota¹, Subrata Saha², Nakul V. Karkare¹
¹ New York Orthopaedic Partners, Centereach, NY
² SUNY Downstate Medical Center, Brooklyn, NY

11:30am **The Bioethics of Implantable Engineered Mechanisms in Orthopedic Surgery**
Sarani Chatterjee, Ravi Balasubramanian and Courtney Campbell
Ohio State University, Columbus, OH

11:45-12:45pm **Lunch**

12:45-1:30pm **Keynote III**
Ethics, Trust and Global Health in Healthcare Innovation: Could Ranking Pharmaceutical Companies Help?
Founding Director of Bioethics International
Harvard University, Boston, MA
Duke University, Durham, NC

1:30-2:30pm **BIOEthics**

Co-Chairs: Sophie Berman, PhD
St. Francis College, Brooklyn NY

Mankad V. Kamath, Ph.D., P.Eng
Mc Master University, Hamilton, ON, Canada

1:30pm **Ethics as Analysis and Ethics as Feelings: The Interplay of Cognition and Emotion on Resolving Ethical Issues in Biology, Engineering and Medicine**
William E. Kastenber
University of California, Berkeley, CA

1:45pm **Crowdsourcing Ethics: A Social Media Platform for Ethics Across the Curriculum**
K. Smith
Clemson University, Clemson, SC

2:00pm **Mitochondrial Disease and Three-Genome Babies: The Slippery Slope into Human Gene Modification**
Sheldon Krinsky
Tufts University, Boston, MA
Brooklyn College, Brooklyn, NY

2:15pm **Biomedical Ethics and Legal Perspectives**
Bijayesh Haldar, Bishnanand Dubey, Durg Vijay Rai
Shobhit University, Gangoh, Saharanpur, UP, India

2:30-3:15pm **Ethics Education**

Co-Chairs: Joo L. Ong, PhD
University of Texas at San Antonio, San Antonio, TX

Falguni Sen, PhD
Fordham University, New York, NY

2:30pm **Teaching Ethics in Biomedical Engineering: A Joint-Venture Approach**
Xavier Jackson, Zachary Jasenky, Vivian Liang, Melvin Moore, Jake Rogers, Geoffrey Pfeiffer, Kristen Billar.
Worcester Polytechnic Institute, Worcester, MA

2:45pm **Fact: It is unlawful to teach ID or creationism as science in a tax-supported school. Opinion: It is also unethical.**
Howard Winet
University of California, Los Angeles, CA

3:00pm **Unheard Voice of Willowbrook: A Bioethics Education Perspective on New York's Infamous State School, 1947-1987**
Obiora N. Anekwe
Columbia University, New York, NY

3:15pm **Ethical Considerations Regarding Informed Consent Disclosure in a Resident Training Program**
James P. Gurtowski and Adam Bitterman
Hofstra North Shore-LIJ School of Medicine at Hofstra University, Hempstead, NY

3:30-4:00pm **Coffee Break**

4:00-5:30pm **BIOEthics II**

Co-Chairs: Micrea Leabu, PhD
University of Bucharest, Bucharest, Romania

Ancuta Augustina Gheorghisan-Galateanu, PhD
University of Medicine and Pharmacy, Bucharest, Romania

4:00pm **Brain stimulation for pediatric treatment versus enhancement: Implications for the moral permissibility of interventions in children**
Hannah Maslen
University of Oxford, Oxford, United Kingdom

4:15pm **Ethical Basis for Patient Centered Health Information Technology**
David Dinhofer¹ and Stephen Beller²
¹ CityTech CUNY, Brooklyn NY
² Croton-on-Hudson, NY

4:30pm	The Physician: Between Ethics and Health System Constantin Ovidiu Gheorghisan-Galateanu and Ancuta Augustina Gheorghisan-Galateanu University of Medicine and Pharmacy, Bucharest, Romania
4:45pm	Special Obligations in Medical Contexts: The Case of Patients Jörg Löschke Berne University, Switzerland
5:00pm	Personalized considerations for patient information – when one size doesn’t fit all Yalini Senathirajah SUNY Downstate Medical Center, Brooklyn, NY
5:15pm	Why and How to Specifically Apply Ethics to Various Pathologies? Mircea Leabu University of Bucharest, Bucharest, Romania

5:30-6:30pm	Technology And Ethics II Co-Chairs: Luis Kun, Ph.D. Washington, DC Jafar Vossoughi, PhD University of Maryland, College Park, MD
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5:30pm	The Ethics of Physician Involvement in Developing -Lethal Weapons: Is it Hurtful or Healthful? Benjamin Drew Harvard Medical School, Boston, MA
5:45pm	Research Into Big Data and Biomedical Research: Balancing Privacy and Medical Breakthrough Katherine Carpenter University of Washington, Seattle, WA
6:00pm	Insights into the Effects of Surgical fixations on lumbar spine- A cae-Based Study Gunti R. Srinivas ¹ , Malhar N. Kumar ² , Anindya Deb ¹ and Subrata Saha ³ ¹ Indian Institute of Science, Bangalore, India ² Hosmat Hospital, Bangalore, India ³ SUNY Downstate Medical Center, Brooklyn, NY

Sunday April 26, 2015 Workshop: Research Integrity and Responsible Conduit of Research	
8:00-10:15am	Research integrity Co-Chairs Subrata Saha, PhD SUNY Downstate Medical Center, Brooklyn, NY TBA
8:15am	Data Misuse and Manipulation: Teaching New Scientists that Fudging the Data is Bad Evan D. Morris ¹ , Jenna M. Sullivan ² and Anjelica L. Gonzalez ¹ ¹ Yale University, New Haven, CT ² inviCRO, LLC, Boston, MA
8:30am	How does collaboration enhance or impede research integrity in translational research? views of scientists in clinical translational science awards (ctsa) programs Sarah McGraw The Hastings Center, Garrison, NY
8:45am	Data Security, Privacy, integrity and inferability determining global to precision medicine Faisal Reza Yale University School of Medicine, New Haven, CT
9:00am	Ethics Among Scientists in an International Context Kirstin RW Matthews, Elaine Howard Ecklund and Steve W. Lewis Rice University, Houston, TX
9:15am	Informed Consent to Complex Genetic Research: Whole Genome Screening of Newborns Evelyne Shuster Veterans Affairs Medical Center, Philadelphia, PA
9:30am	Ethical issues in conducting psychological research in pediatric population Shruti Shivakumar, and Vishal Shrishail Kudagi. JSS Dental College and Hospital, Mysore, India

9:45am	When Bioethics and Engineering Ethics Collide: Security Vulnerabilities in Wearable and Implanted Health Technologies Katherine Carpenter and David Dittrich University of Washington, Seattle, WA	1:15pm	The Ethics of Conducting Multinational Research and the Ethics of Research with Children Peter Loomer. Alexander J. Schloss and Jyoti Kansal New York University College of Dentistry, New York, NY
10:00am	Similarities and Differences in Medical, Engineering, Professional and Research Ethics Irving P. Herman Columbia University, New York, NY	1:30pm	Testing a TBL Curriculum for Effective RCR Education Michael F. Verderame, William L. Allen, Shane Connelly, Joshua Crites, Jeffrey Engler, Victoria Freedman, Cynthia W. Garvan, Paul Haidet, Joel Hockensmith, William McElroy, Erik Sander, Rebecca Volve and Wayne McCormack
10:15-10:45am	Coffee Break		
10:45-12:00pm	Panel Discussion: Research Integrity & Responsible Conduct of Research Panel Members: Mauli Agrawal, Ph.D., P.E., Vice President for Research at the University of Texas at San Antonio (UTSA), San Antonio, TX Gilda Barabino, Ph.D. Dean of the Grove School of Engineering, at City College (CUNY), New York, NY Joshua B. Toas, JD, CCEP, CCEP.I, CFE Chief Compliance Officer and Assistant Secretary of the Research Foundation for SUNY Albany, Albany, NY TBA	1:45pm	Conflict of Interest Disclosure in Orphan Drug Research Daniel Patrone, Jen-Ting Wang, Melissa Haig, Rosemary Harris, Rebecca LeFebvre, Matthew Vedete, and Taylor Zelka SUNY Oneonta, Oneonta, NY
		2:00pm	Ethics in Medical Research. The Low Fat-Diet-Heart Hypothesis. First, How Much Harm Has Been Done? Richard David Feinman ¹ and Sara M. Keough ² ¹ SUNY Downstate Medical Center, Brooklyn, NY ² Maryland University of Integrative Health, Laurel, MD
12:00-1:00pm	Lunch		
1:00-2:15pm	Responsible Conduct of Research (rcr) Co-Chairs: TBA TBA		
1:00pm	Financial conflict of interest and trust Josephine Johnston The Hastings Center, Garrison, NY		

Posters

On the Precipice of Life: An ethical analysis of Suspended Animation with biomedical and engineering implications

Christian Aditya, Megan Centafont, Zane Gray, Hassan Omar, Jaskeerat Singh and Richard L. Wilson
University of Maryland, Baltimore County, MD

Ethical and current issues with organ transplantation in developed and developing countries.

Mariane Espitalié and Subrata Saha
SUNY Downstate Medical Center, Brooklyn, NY

Anticipating Future Ethical Issues with Prosthetic Devices

Emily Canapp Niara Comrie Lailynn Reyes Francois Rice
Richard L. Wilson
University of Maryland, Baltimore County, MD

Convalescent Serum Therapy: A Dissenting Opinion

Andrew Hawkins
Boston College, Boston, MA

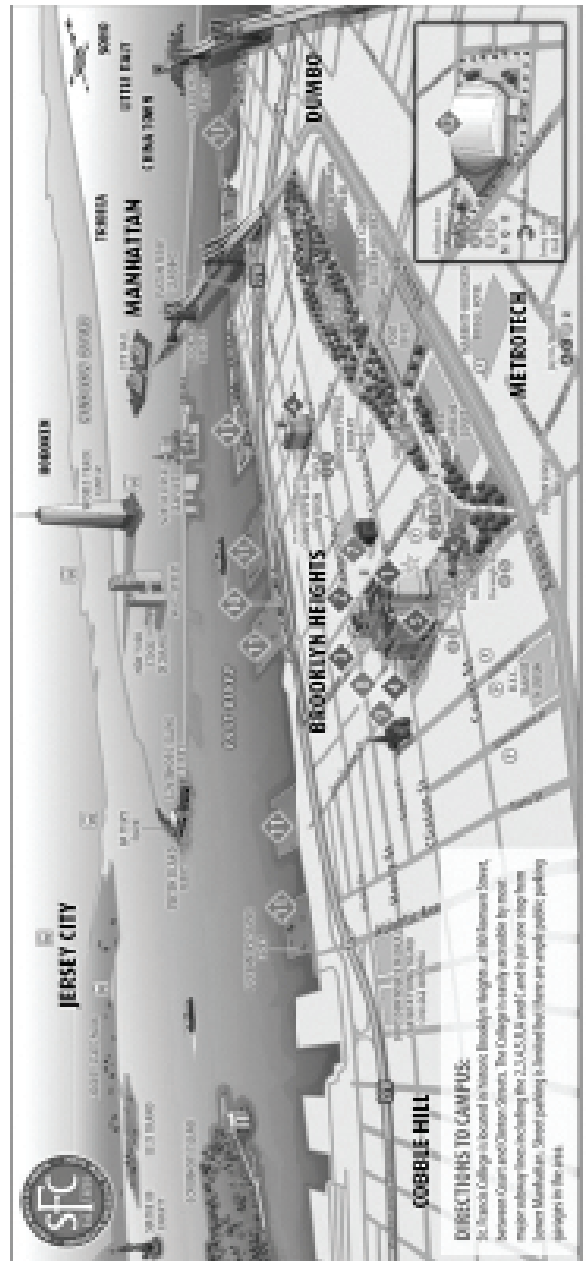
Ethical Aspects Of Clinical Trials Anti-Tuberculous Drugs For Pediatrics

Kunnaz Murzagulova, Professor, Marina Kim, PhD,
A. Yanovich, Master
"Romat" Pharmaceutical Company, Pavlodar, Republic of Kazakhstan

* Denote invited speakers

Technical Programs will be held at:

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